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     (FILE 'HOME' ENTERED AT 16:56:03 ON 30 SEP 2002)
     FILE 'CA' ENTERED AT 16:56:12 ON 30 SEP 2002
L1  27771 S (REACTOR OR REACTION)(2A)(ARRAY OR PLURAL? OR VESSEL OR BENCHTOP OR
          LABORATORY OR CONTAINER OR BLOCK)
L2    136 S L1 AND COMBINATORIAL
L3    594 S L1 AND(INJECTOR OR INJECTION)
L4     23 S L3 AND VALVE
L5    571 S L3 NOT L4
L6    188 S L5 AND (ONLINE OR PRESSUR?)
L7   5407 S L1 AND(CATALY? OR POLYMERIZ?)
L8   1291 S L7 AND (ONLINE OR PRESSUR?)
L9     30 S L8 AND VALVE
L10   371 S L2,L4,L6,L9
L11   241 S L10 NOT(NUCLEAR OR RADIOA?)
L12   113 S L11 NOT PY>1998
L13    89 S L11 NOT L12 AND PATENT/DT
L14   202 S L12-13

=> d bib,ab 1-202

L14  ANSWER 33 OF 202  CA  COPYRIGHT 2002 ACS
AN   135:154484  CA
TI   Nestable, modular apparatus for synthesis of multiple organic compounds
IN   Weller, Harold Norris, III; Ruediger, Waldemar; Lawrence, R. Michael
PA   USA
SO   U.S., 16 pp.
PI   US 6274094        B1   20010814       US 1997-991474   19971216
PRAI US 1997-35105P    P    19970113
AB   The simultaneous synthesis of diverse org. compds. is performed in
     stackable modules which are moveable among nesting sites located on work
     station platforms.  The reactor module includes a heat transfer block
     adapted to receive an array of reactor vessels, preferably in the form of
     solid phase extn. cartridges without sorbent, each with an outlet port.  A
     plurality of valves are located below the vessels.  The valves consist of
     rows of gang-controlled stopcocks which regulate the passage of fluids from
     the reactor vessel outlet ports into aligned channels, each formed by a
     pair of threated Leur tip adapters.  The reactor module may be situated
     over a discharge module.  The inlet openings in the discharge module accept
     the threaded ends of the Leur tip adapters.  The discharge module may
     consist of a multi-well collector block or a drain block.  An introduction
     module, which includes a pressure plate having an array of openings and a
     septum, may be received over the reactor module .  The downwardly projecting
     rim defining each pressure plate opening cooperates with the septum to
     engage the mouth of the aligned reactor vessel to maintain a fluid tight
     seal.

L14  ANSWER 37 OF 202  CA  COPYRIGHT 2002 ACS
AN   134:147610  CA
TI   Compositions containing N-amino- and N-hydroxy-quinazolinones and methods
     for preparing combinatorial libraries thereof
IN   Gao, Yun
PA   Sepracor Inc., USA
SO   U.S., 15 pp.
PI   US 6184377        B1   20010206       US 1997-990855   19971215
     US 6429311        B2   20020806
PRAI US 1997-990855    A1   19971215
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AB The invention is directed to certain N-amino- and N-hydroxy-quinazolinone compds., and methods for their synthesis. The compds. may find use in **combinatorial** libraries. More specifically, the invention is directed to the synthesis of 3-hydroxy- and 3-amino-4(1H)-quinazolinones via the reaction of an appropriate 2-aminobenzamide compd. with a carboxylic acid or acyl halide at ambient temp., performed on a solid support or in soln. In particular, the compds. are prepd. via supported compds. I [R1 = H, halo, alkyl, OH, alkoxy, etc.; or adjacent (R1)2 = (hetero)arom. fusion; R2 = (un)substituted alkyl, alkoxy, N-protected amino acid residue, Ph, etc.; Z = NHCO2CH2-Sup, OCH2-Sup, etc.; Sup = solid support]. For instance, Sup-ONH2 reacted with 15 isatoic anhydrides to give 15 supported 2-amino-N-hydroxybenzamides Sup-ONH-CO-C6H4-n(R1)n-NH2-2. The latter compds. were mixed into 5 groups of 3, and each group was then split 16 ways and cyclized sep. with each of 16 Fmoc-protected amino acids, using PyBrOP in DMAC as the condensing agent. Each of the 80 resultant Fmoc-protected quinazolinone mixts. was deprotected with piperidine, sepd. into 24 wells of a **reactor block**, and reacted with a selection of 8 chloroformates, 8 sulfonyl chlorides, and 8 isocyanates. The resulting 1920 product mixts. were treated with TFA to cleave the resin, yielding a library of 5760 different 3-hydroxyquinazolin-4-ones [II; R1 = H, Me, MeO, halo, and/or NO2; R2 = amino acid sidechain; R3 = other sidechain forming a carbamate, sulfonamide, or urea group], as 3-compd. mixts., which were stored for future bioassay.

L14 ANSWER 40 OF 202 CA COPYRIGHT 2002 ACS
AN 134:73529 CA
TI Three-dimensional **reaction array** with controlled reagent flow for solid-phase **combinatorial** chem. synthesis
IN Campbell, David A.; Antonenko, Valery V.; Selick, Harold E.; Gavin, Robert M.; Ida, Satoru; Muir, Arthur H.
PA Glaxo Wellcome Inc., USA
SO U.S., 40 pp., Cont.-in-part of U.S. 6,083,682.
PI US 6168914 B1 20010102 US 1998-216093 19981218
US 6083682 A 20000704 US 1997-994802 19971219
PRAI US 1997-994802 A2 19971219
AB A chem. synthesis app. for synthesis of a **combinatorial** collection of compds. includes a no. of middle plates bounded by two end plates, in which each middle plate contains a no. of reaction zones arranged in a two-dimensional array. The end plates include an array of fluid guides corresponding to an **array** of **reaction** zones that allow for selective routing of reagents through the reaction zones. In detail, the reaction system comprises: a three-dimensional array of (X × Y × Z) reaction zones that form X(y,z), Y(x,z), and Z(x,y) reaction planes, in which (1) the location of each zone in the array is defined by its (x,y,z) coordinates, (2) each reaction zone comprises a solid support formed of a portion of a membrane sheet disposed in a Z(x,y) reaction plane such that the portion of the membrane sheet provides a support for the (x,y) reaction zones, (3) each membrane sheet provides a support for the (x,y) reaction zones which have a common z coordinate, and which are isolated from each other by fluid-tight seals, and (4) reaction zones having a common (x,y) coordinates are in fluid communication with each other. The app. is esp. useful for synthesis of **combinatorial** libraries of pharmaceutically active compds.

L14 ANSWER 45 OF 202 CA COPYRIGHT 2002 ACS
AN 133:351903 CA
TI Chemical synthesizer systems
IN Antonenko, Valery V.; Kulikov, Nicolay V.
PA Glaxo Wellcome Inc., USA

SO U.S., 29 pp., Cont.-in-part of U. S. Ser. No. 947,476.

PI	US 6149869	A	20001121	US 1998-58971	19980410
	US 6042789	A	20000328	US 1996-736317	19961023
	US 6051439	A	20000418	US 1997-947476	19971010
PRAI	US 1996-736317	A2	19961023		

AB Improved chem. synthesizers are described and methods for their use. The chem. synthesizer system is provided with a **reaction vessel block** having a **plurality** of **reaction vessels** which are adapted to hold solid supports. A wash plate is removably attachable to a top end of the **reaction vessel block**. The wash plate has a plurality of fluid delivery orifices which are aligned with the **reaction vessels** when the wash plate is attached to the top end of the **reaction vessel block**. In this way, fluids may be supplied to each of the **reaction vessels** through the orifices. The system can include a vortex mixer that is held stationary by evacuation of a cavity formed between the mixer base and a gasket.

L14 ANSWER 56 OF 202 CA COPYRIGHT 2002 ACS
AN 132:199094 CA
TI Devices and methods for accessing **reaction vessels**
IN Kilcoin, Christopher; Long, Terry; Hughes, Jan; Wasson, James
PA Argonaut Technologies, Inc., USA
SO PCT Int. Appl., 44 pp.

PI	WO 2000010707	A1	20000302	WO 1999-US19289	19990823
	US 6395235	B1	20020528	US 1999-378664	19990820
PRAI	US 1998-97511P	P	19980821		

AB Devices and methods are provided for delivering fluids into **reaction vessels**. The device is an interface head which allows a user to add reagents and wash solvents to a **reaction vessel**. A schematic drawing of the vessels is depicted.

L14 ANSWER 59 OF 202 CA COPYRIGHT 2002 ACS
AN 132:32894 CA
TI Modular **reaction block** assembly with thermoelectric cooling and heating
IN Harness, James R.; Markus, Larry W.; Grzybowski, Andrew J.; Haidle, Rudy H.; Turewicz, Marek
PA Mettler-Toledo GmbH, Switz.
SO Eur. Pat. Appl., 11 pp.

PI	EP 963791	A2	19991215	EP 1999-201812	19990608
PRAI	US 1998-90021	A	19980610		

AB An **array** of **reaction** assemblies is provided with means for heating and cooling a **plurality** of **reaction vessels**. Each **reaction vessel** assembly including a heat conductive **reaction block** having an exterior wall and a **reaction vessel** receiving cavity formed in the block inwardly of the exterior wall. A thermoelec. module is mounted in heat transfer engagement with the exterior wall of the heat conductive **reaction block**. A fluid heat exchange element is mounted in heat transfer engagement with the thermoelec. module. The thermoelec. module has its junctions to selectively remove heat from the exterior wall of the **reaction block** or to supply heat to this exterior wall. Each thermoelec. module has thermoelec. junctions cascaded for increased heating and cooling range and a plurality of these junctions to increase capacity.

L14 ANSWER 63 OF 202 CA COPYRIGHT 2002 ACS
AN 131:308588 CA
TI Apparatus and process for conducting combinational chemical syntheses
IN Bier, Milan; Fuentes, German Eduardo; Marquez, Rodolfo Bacheleir; Ford, Anthony Ralph
PA Protein Technologies, Inc., USA

SO U.S., 14 pp.
PI US 5980839 A 19991109 US 1998-22047 19980211
AB A **combinatorial** vessel is described comprising a reaction region and a mixing region, adjacent to each other, which can be used for **combinatorial** chem. synthesis by a randomized sequential process. The vessel can rotate or tilt. The mixing region can be connected to feed lines or vacuum suction. The reaction region comprises a **plurality** of **reaction** cavities, in which a plurality of different chem. reactions may be performed simultaneously on resin beads. The resin beads are then transferred to the mixing region and mixed into a single group. Then, the resin beads are transferred into the reaction cavities. The process of performing reactions, transferring to the mixing region, mixing, and transferring to the reaction region can be repeated multiple times to obtain a large no. of resin beads, each of which has been exposed to a series of reactions different from most of the other resin beads.

L14 ANSWER 64 OF 202 CA COPYRIGHT 2002 ACS
AN 131:286024 CA
TI Method and apparatus for synthesis of libraries of organic compounds
IN Zhou, Peng; Matson, Stephen
PA Otter Coast Automation, Inc., USA
SO PCT Int. Appl., 80 pp.
PI WO 9954031 A1 19991028 WO 1999-US8848 19990423
US 6309608 B1 20011030 US 1999-298743 19990423
PRAI US 1998-82841P P 19980423
AB An app. for synthesis of a library of org. compds. comprises (1) a **reaction block** having multiple individual vessels, each having an open top and a drain hole in the bottom surface and a sealing means for simultaneously sealing the drain holes of the **reaction vessels**, (2) a washing plate assembly comprising a means for attaching to the **reaction block**, a recessed wash plate cavity in fluid communication with a fluid exit port, and a means for simultaneously controlling the drainage of all **reaction vessels**, and (3) a transfer assembly comprising a transfer box having an internal cavity sized to fit a receiving container, a transfer assembly cover plate shaped to mate with the **reaction block** assembly, and a means for accurately locating the transfer assembly cover plate on the transfer box. The invention is particularly well suited to the conduct of solid-phase or soln.-phase parallel syntheses of single compds. and compd. mixts. in a high throughput manner.

L14 ANSWER 66 OF 202 CA COPYRIGHT 2002 ACS
AN 131:171968 CA
TI **Reaction vessel** filter for **combinatorial** chemistry, biological reactions, or clinical analysis
IN Kath, Gary S.; King, Gregory W.
PA Merck and Co., Inc., USA
SO U.S., 7 pp.
PI US 5945070 A 19990831 US 1997-955434 19971021
PRAI US 1996-29350P P 19961031
AB A filter tube for a **reaction vessel** is described which maintains the vessel under an inert gas atm. and maintains the integrity of the inert gas seal during filtered or unfiltered filling or filtered draining operations. The filter tube consists of a plastic filter sipper tube insert and a transfer probe (e.g., concentric cannula) for a septum sealed vessel. The bottom end of the sipper tube contains a porous frit. The **reaction vessel** can be used for lab. and clin. operations, automated solid phase synthesis, and screening, requiring air-tight operation.

L14 ANSWER 70 OF 202 CA COPYRIGHT 2002 ACS
AN 130:302290 CA
TI Method and apparatus for screening catalyst libraries
IN Morken, James P.; Taylor, Steven J.
PA The University of North Carolina At Chapel Hill, USA
SO PCT Int. Appl., 27 pp.
PI WO 9921957 A1 19990506 WO 1998-US21611 19981014
US 6242262 B1 20010605 US 1997-957191 19971024
PRAI US 1997-957191 A1 19971024
AB A method for isolating an active catalyst from a library of compds. that are potential catalysts is disclosed. The method involves providing a library which comprises a plurality of discrete solid supports, each solid support having a different org. compd. bound thereto; and providing a reaction soln. in a **reaction vessel**, the **reaction** soln. contg. the reactant or reactants necessary for a chem. reaction to occur in the presence of a catalyst for that reaction. The library and the reaction soln. are then combined in the **reaction vessel**, and then one of the discrete solid supports is detected that is characterized by a temp. change in said soln. greater than the temp. change of a plurality of other of said discrete solid supports in said soln. The detected solid support carries an active catalyst for the chem. reaction. Continuous flow app. for carrying out the method is also disclosed.

L14 ANSWER 71 OF 202 CA COPYRIGHT 2002 ACS
AN 130:298833 CA
TI Systems and methods for **combinatorial** organic synthesis of **arrays** of **reactions**
IN Bernstein, Daniel M.; Wright, Peter; Miller, Steve; Kilcoin, Christopher; Wasson, James; Hughes, Jan; Brennan-Marquez, Thomas; Kyrie, Dominic
PA Argonaut Technologies, Inc., USA
SO PCT Int. Appl., 60 pp.
PI WO 9920395 A1 19990429 WO 1998-US22193 19981021
PRAI US 1997-63134P P 19971022 6190619
AB The title systems include a reagent delivery/vent unit and a chem. processing unit having a **plurality** of **reaction vessels**. The reagent delivery/vent unit has a plurality of tubular structures adapted to slidably engaging cavities in the chem. processing unit to form a circumferential seal for each of the tubular structures. The delivery/vent unit typically has a fluid interface head having tubular structures to engage the chem. processing unit. The chem. processing unit preferably has a cassette to house all of the **reaction vessels** and defines the plurality of elongated cavities adapted to receive the tubular structures.

L14 ANSWER 74 OF 202 CA COPYRIGHT 2002 ACS
AN 130:198292 CA
TI Deflected septum seal access port for laboratory vessels
IN Kath, Gary S.; Yang, Lihu; King, Gregory W.
PA Merck & Co., Ltd., USA
SO U.S., 8 pp.
PI US 5882601 A 19990316 US 1997-877986 19970618
AB An access port for reaction or other fluid vessels which maintains the vessel under an inert gas atm. and maintains the integrity of the inert gas seal while performing filtered filling or draining operations is presented. The port uses a deflected septum sealing method. The septum seal can be used for venting via a sep. venting cannula which acts in cooperation with a transfer cannula. A sipper tube functions to mix the contents of the vessel. The invention can be used for a no. of lab. and clin. operations on a variety of size and shape vessels. The combination of the appropriate

vessel with this access port is very well suited for use in lab. automation systems, such as automated solid phase chem. synthesis, biol. screening, **combinatorial** chem. and other areas where reaction chem. is conducted.

L14 ANSWER 75 OF 202 CA COPYRIGHT 2002 ACS
AN 130:138907 CA
TI The domino blocks: a simple solution for parallel solid-phase organic synthesis
AU Krchnak, Viktor; Padera, Vitecek
CS SIDDCO, Tucson, AZ, 85747, USA
SO Bioorganic & Medicinal Chemistry Letters (1998), 8(22), 3261-3264
AB The domino **block** is a **reaction block** for manual and semi-automatic parallel solid-phase org. synthesis that simplifies liq. exchange and integrates common synthetic steps. The domino block consists of enclosed **reaction vessels**, polypropylene syringes, attached to a manifold that clamps the syringes and connects them to a common port. Liq. is removed from the closed **reaction vessels** by vacuum connected to the common port. The vacuum formed inside each **reaction vessel** is subsequently used to draw fresh solvent or reagent into each **reaction vessel**. The construction of a small, three-step **combinatorial** library of 1,728 N-(alkoxyacyl)amino acids is described to illustrate the usefulness of the domino block for parallel synthesis.

L14 ANSWER 77 OF 202 CA COPYRIGHT 2002 ACS
AN 130:68279 CA
TI Methods and apparatus for universal fluid exchange
IN Feygin, Ilya; Affleck, Rhett L.; Walling, Leslie A.; Kieselbach, Peter; Henderson, Ian
PA Pharmacopeia, Inc., USA
SO PCT Int. Appl., 38 pp.
PI WO 9857181 A1 19981217 WO 1998-US11765 19980608
PRAI US 1997-872097 19970610
AB A universal fluid-exchange device includes upper and lower **reaction vessel** supports which include pressure-sealed **injection** and evacuation ports for each supported **reaction vessel**. **Reaction vessels** matingly engage through the **injection** and evacuation ports with fittings which are connected through flexible tubing to resp. supplying and receiving vessels. The **reaction vessels** or fittings are moved into position, as required, so that reactants may be directly supplied from supplying vessels in the order and amt. desired without operation of **valves** that can become contaminated, and so that the **reaction vessels** may dispel their contents into the appropriate receiving vessels. The system may be highly advantageous in applications such as **combinatorial** chem. where myriad combinations of chems., solvents, and reagents are employed.

L14 ANSWER 78 OF 202 CA COPYRIGHT 2002 ACS
AN 130:54087 CA
TI Systems and methods for parallel synthesis of compounds using **plurality reaction vessels**
IN Kilcoin, Christopher; Miller, Steve; Long, Terry
PA Argonaut Technologies, Inc., USA
SO PCT Int. Appl., 40 pp.
PI WO 9856506 A1 19981217 WO 1998-US12305 19980611
US 6190619 B1 20010220 US 1998-95731 19980610
PRAI US 1997-49198P P 19970611
AB The systems include a **plurality** of **reaction vessels** for parallel synthesis of multiple discrete compds. or for **combinatorial** libraries of compds. In 1 embodiment, a synthesis app. comprises a frame having a **plurality** of

reaction vessel-holding openings and a plurality of valves for use in parallel synthesis of a plurality of compds. within **reaction vessels**. The **reaction vessel**-holding openings and the valves are aligned with one another, each valve being movable between an open position, allowing fluid to be delivered through the valve, and a closed position, preventing fluid from passing through the valve.

L14 ANSWER 79 OF 202 CA COPYRIGHT 2002 ACS
AN 130:51989 CA
TI MCR. X. Important aspects for automating preparative chemistry
AU Ugi, Ivar; Almstetter, Michael; Gruber, Bernhard; Domling, Alexander
CS Institut Organische Chemie Biochemie, Technische Universitat Munchen, Garching, D-85747, Germany
SO Microreaction Technology, Proceedings of the International Conference on Microreaction Technology, 1st, Mainz?, Feb. 23-25, 1997 (1998), Meeting Date 1997, 184-189. Editor(s): Ehrfeld, Wolfgang. Publisher: Springer, Berlin, Germany.
AB A conference. Usually, classical syntheses from n starting materials require sequences of at least n-1 prepn. steps including sepn. and purifn. of the intermediates. A perfect alternative for the rapid synthesis of a large variety of chem. products are one-pot syntheses by multicomponent reactions (MCR) based on the isocyanides. Between four and seven different types of reactants (educts) are mixed in a **reaction vessel** to form a product that contains at least one part of each educt. The educts and intermediates equilibrate and a stable product results, often with quant. yields, in the final practically irreversible step involving the isocyanide. Reactions of this type are widely used for **combinatorial** chem. The minimization of such syntheses and the computer-assisted handling of the results offer the chance of automating preparative chem.

L14 ANSWER 83 OF 202 CA COPYRIGHT 2002 ACS
AN 129:246968 CA
TI Apparatus and method for **combinatorial** chemistry synthesis
IN Lebl, Michael; Pokorny, Vit; Krchnak, Viktor
PA Trega Biosciences, Inc., USA
SO PCT Int. Appl., 128 pp.

PI	WO 9840159	A2	19980917	WO 1998-US4630	19980310
	US 6045755	A	20000404	US 1997-815975	19970310
PRAI	US 1997-815975		19970310		

AB In a first embodiment, this invention includes an integrated robot app. for performing **combinatorial** chem. synthesis protocols and having interchangeable work-stations, robot arm tools, and **reaction vessels** and **reaction vessel arrays**. The work-stations and tools are specialized to perform tasks necessary for the synthesis in a **plurality** of the **reaction vessels** grouped in a **plurality** of the **reaction vessel arrays**. Preferably, these elements function interchangeably because they have standardized sizes and conformation. The work-stations and tools include those for fluid dispensing or aspirating from individual **reaction vessels** or from all the **reaction vessels** in an array simultaneously. The **reaction vessels** can include, alternatively, stackable, ball-sealed **reaction vessels**, microtitre-like **reaction vessel arrays**, **arrays** of independent **reaction vessels**, valve-sealed **reaction vessels**, septum-sealed **reaction vessels**, and syringe **reaction vessels**. In alternative embodiments, this invention includes these work-stations, tools, **reaction vessels** and **reaction vessel arrays** in various combinations or sub-combinations either for use in partially integrated robots or for manual or stand-alone use.

L14 ANSWER 84 OF 202 CA COPYRIGHT 2002 ACS

AN 129:232426 CA
TI Apparatus and methods for the preparation of chemical compounds
IN Zuellig, Marc; Long, Terry; Wasson, James; O'neill, Michael J.; Ly, Hung; Williams, Bill; Kath, Gary; King, Gregory; Uhrig, Brian; Hutchins, Steven
PA Argonaut Technologies, Inc., USA; et al.
SO PCT Int. Appl., 60 pp.
PI WO 9839099 A1 19980911 WO 1998-US4398 19980305
US 6126904 A 20001003 US 1997-925817 19970905
PRAI US 1997-40050P P 19970307
AB The present invention provides app. and methods for the synthesis of **combinatorial** chem. libraries. The app. comprises a **plurality** of **reaction vessels** having an inner surface, an outer surface, a first opening, and a second opening. An agitator is contained within each of the **reaction vessels** for stimulating liq. circulation within the vessels. The app. has a common gas line having a plurality of gas outlet ports, where each of the **reaction vessels** has at least one gas outlet port positioned to feed into the vessel. The app. also has a common liq. line having a plurality of liq. outlet ports, where each of the **reaction vessels** has at least one liq. outlet port positioned to feed into the vessel. Each **reaction vessel** also has at least one valve coupled to the second opening on the vessel.

L14 ANSWER 87 OF 202 CA COPYRIGHT 2002 ACS
AN 129:218366 CA
TI Automated macromolecule synthesizing process and device
IN Brugger, Hermann; Rembe, Christian; Bader, Raoul; Hofer, Eberhard P.; Seliger, Hartmut
PA Merckle G.m.b.H., Germany
SO PCT Int. Appl., 34 pp.
PI WO 9836828 A1 19980827 WO 1998-EP1030 19980223
PRAI DE 1997-19707000 A 19970221
AB An automated process and device are described for synthesizing macromols. on a strip of support material. The device has at least one hermetically closable synthesis module with reaction chambers and fluid lines for filling and emptying the reaction chambers with reaction media. The support material can be introduced into the synthesis module and brought into contact with the reaction chambers. Transport means are provided for displacing the support material over a certain distance and can be actuated by a controller. The reactor is used for synthesis of oligonucleotides bound to a functionalized support material, in particular for producing oligonucleotide libraries.

L14 ANSWER 89 OF 202 CA COPYRIGHT 2002 ACS
AN 129:211731 CA
TI Automatic synthesis apparatus
IN Miyoshi, Hajime; Mino, Yutaka; Nakamura, Osamu; Nishimura, Shintaro; Tanaka, Akito
PA Dainippon Seiki Co., Ltd., Japan; Fujisawa Pharmaceutical Co., Ltd.
SO PCT Int. Appl., 80 pp.
PI WO 9841320 A1 19980924 WO 1998-JP1003 19980311
PRAI JP 1997-60259 19970314
AB The invention relates to an automatic synthesis app. suited to, for example, diversified small-quantity synthesis of samples for pharmacol. evaluation. The need of cleaning a means for dispensing a liq. for reactive liq. generation and a means for agitating a reactive liq. is eliminated, a possibility of contamination is eliminated , and noises are reduced. The automatic synthesis app. comprises storage sections , for receiving a plurality of containers intended for dispensing, in which the liq. for reactive liq. generation is stored, a nozzle tip storage section

for receiving a plurality of disposable nozzle tips , a rotating shaking machine for receiving and shaking a **plurality** of **reaction containers**, and a dispensing device which is movable between the resp. storage sections and a **reaction container** storage base of the rotating shaking machine, performs automatic mounting and dismounting of the nozzle tips, and uses the nozzle tips mounted to suck the liq. for reactive liq. generation in the containers intended for dispensing and discharge the same into **reaction containers**.

L14 ANSWER 91 OF 202 CA COPYRIGHT 2002 ACS
AN 129:190861 CA
TI Apparatus and method for solid-phase synthesis of chem. libraries using multidimensional movable arrays
IN Brennan, Thomas A.
PA ProtoGene Laboratories, Inc., USA
SO PCT Int. Appl., 111 pp.

PI	WO 9833586	A1	19980806	WO 1998-US2151	19980205
	US 6001311	A	19991214	US 1997-792356	19970205
PRAI	US 1997-792356	A	19970205		

AB A chem. synthesis app. is described for building chem. compds. including a head assembly having an array of movable nozzles coupled to reservoirs of liq. reagents and a base assembly having an **array** of **reaction** wells. A transport mechanism aligns selected nozzle columns in the X-direction, and independently controllable sliders move nozzle columns in the Y-direction. The first sliding seal and the plurality of second sliding seals form enclosed reaction wells while permitting reagent delivery. A gas inlet and outlet sweep away fumes emitted by reagents. Methods of compd. synthesis from chem. components are also provided. The app. permits the synthesis of chem. libraries.

L14 ANSWER 92 OF 202 CA COPYRIGHT 2002 ACS
AN 129:177305 CA
TI Solid-phase organic synthesis apparatus with pressure-regulating manifold and vacuum control device
IN Hamper, Bruce C.
PA Monsanto Co., USA
SO U.S., 20 pp., Cont.-in-part of U. S. Ser. No. 695,720, abandoned.

PI	US 5792430	A	19980811	US 1997-900120	19970725
PRAI	US 1996-695720	B2	19960812		

AB A solid-phase org. synthesis device is equipped with a pressure-regulating manifold and an optional heating block mounted to an upper surface of the manifold. This pressure-control device and an addnl. vacuum control device are easily operated to create a vacuum and varying degrees of pos. pressure within the manifold, as required when carrying out an org. synthesis. The manifold includes an internal cavity and a first array of holes coupled to the internal cavity. A heating block includes a second array of holes vertically aligned with the corresponding holes of the first array. The first and second arrays of holes are adapted to accommodate flow-through **reaction vessels**, each of which is secured in one of the holes of the first array and a vertically aligned hole of the second array. The interiors of the **reaction vessels** are in communication with the internal cavity of the manifold. The flow-through **reaction vessels**, which contain solid-phase resins for solid-phase org. synthesis, are controlled by regulating the pressure within the manifold. The manifold includes a pressure port coupled to both an inert gas source and a pressure control device; a vacuum port is coupled to a vacuum control device and a vacuum source. A second manifold is mounted on the first manifold in the absence of the **reaction vessels** to supply inert gas used to conc. org. synthesis products.

L14 ANSWER 101 OF 202 CA COPYRIGHT 2002 ACS
AN 128:76925 CA
TI Multi-reactor synthesizer and method for **combinatorial** chemistry
IN Moore, Michael Lee; Yamashita, Dennis Shinji
PA Smithkline Beecham Corporation, USA; Moore, Michael Lee; Yamashita, Dennis Shinji
SO PCT Int. Appl., 21 pp.

PI	WO 9745455	A1	19971204	WO 1997-US9408 19970530
	US 5792431	A	19980811	US 1996-657701 19960530
PRAI	US 1996-657701	A1	19960530	

AB Solid phase **combinatorial** synthesis is carried out in a multi-reactor synthesizer comprising an **array** of sep. **reactor** cells contg. a solid reaction support medium. Subsets of the reactor cells are interconnected with one another in a desired pattern; in a first reaction step, reagents are circulated through the subsets. After the first reaction step is completed, the reactor cells are rearranged into a new configuration of the subsets, and the same or other reagents are circulated through the new subsets. The process can be repeated to produce large nos. of compds. differing from one another.

L14 ANSWER 108 OF 202 CA COPYRIGHT 2002 ACS
AN 127:66164 CA
TI Automatic peptide synthesizer useful for multiple peptide synthesis and peptide libraries
AU Blaha, Ivo; Flegel, Martin; Cerna, Vera; Pavlik, Manfred; Pokorny, Vit; Mudra, Petr; Lepsa, Ludek; Zenisek, Karel
CS Prague Polypeptide Institute, Prague, 102 27/10, Czech Rep.
SO Innovation and Perspectives in Solid Phase Synthesis & Combinatorial Libraries: Peptides, Proteins and Nucleic Acids--Small Molecule Organic Chemical Diversity, Collected Papers, International Symposium, 4th, Edinburgh, Sept. 12-16, 1995 (1996), Meeting Date 1995, 319-320. Editor(s): Epton, Roger. Publisher: Mayflower Scientific, Birmingham, UK.
AB A symposium report. The multipurpose peptide synthesizer has been constructed. The original design of **reactor block** let to use this machine either for multiple peptide synthesis or for peptide libraries synthesis. The flexible software of this synthesizer enables to prep. 20 independent peptides or one peptide library. This machine is now in daily use at Prague Polypeptide Institute, some examples of prepd. peptides are described.

L14 ANSWER 112 OF 202 CA COPYRIGHT 2002 ACS
AN 126:16483 CA
TI Methods and apparatus for the generation of chemical libraries
PA Ontogen Corporation, USA
SO PCT Int. Appl., 62 pp.

PI	WO 9633010	A1	19961024	WO 1996-US5339 19960417
	US 5609826	A	19970311	US 1995-422869 19950417
	US 5770157	A	19980623	US 1996-718105 19960918
PRAI	US 1995-422869		19950417	

AB The app. includes a **reaction block** which supports replaceable reaction chambers. Each **reaction block** is fitted with 4 sets of 12 reaction chambers. Reaction chambers are provided with s-shaped trap tubes which run into drain tubes. The **reaction block** is provided with gas lines and a septum seal such that gas pressurization empties the reaction chambers into the drain tubes. The drain tubes are arranged so as to mate directly with a std. 96-well microtiter plate for the collection of material. A docking station secures registration of **reaction blocks** and introduces gases and liqs. into the **reaction blocks**. An inert atm. is maintained in the

reaction block by top and optional bottom seals. A needle pipets reagents from reagent **containers** into **reaction** chambers. A container rack keeps reagent containers securely in place.

L14 ANSWER 113 OF 202 CA COPYRIGHT 2002 ACS
AN 125:332635 CA
TI High-**pressure** reactor
IN Makino, Hisaaki; Moriya, Takehiko; Saito, Yoshihisa; Kanazawa, Masazumi
PA Tohoku Electric Power Co., Inc., Japan; Ohei Developmental Industries Co., Inc.
SO Ger. Offen., 35 pp.
PI DE 19615974 A1 19961024 DE 1996-19615974 19960422
PRAI JP 1995-95002 A 19950420 US 5843386
AB The reactor for synthesis and decompn. of materials includes **injection** means for the materials such as water or a hydrothermal solvent and an reaction accelerator and the like, a reactor connected to the **injection** means and heating means, and a **pressure**-decreasing means. The **reactor** comprises a **plurality** of **reactor** units with individually controlled heating means.

L14 ANSWER 133 OF 202 CA COPYRIGHT 2002 ACS
AN 107:218073 CA
TI A method and apparatus for automated synthesis of peptides
IN Horn, Marcus J.; Miller, William K.
PA Applied Protein Technologies, Inc., USA
SO PCT Int. Appl., 36 pp.
PI WO 8606298 A1 19861106 WO 1986-US814 19860417
US 4701304 A 19871020 US 1985-725213 19850419
PRAI US 1985-725213 19850419
AB A shaker/reactor type peptide synthesizer using a single port for both **injection** and withdrawal of solns. to/from the **reaction vessel** was constructed. A piston-type syringe is connected to the vessel, allowing the **pressure** to be reduced by a defined amt. prior to connection to a selected reagent reservoir. The amt. of reagent transferred is easily adjustable, and no intermediate chamber is utilized. Diagrams are included.

L14 ANSWER 135 OF 202 CA COPYRIGHT 2002 ACS
AN 106:158668 CA
TI The cup-and-cap reactor: a device to eliminate induction times in mechnaically agitated slurry reactors operated with fine catalyst particles
AU Grau, Ricardo J.; Cassano, Alberto E.; Baltanas, Miguel A.
CS INTEC, Santa Fe, 3000, Argent.
SO Ind. Eng. Chem. Res. (1987), 26(1), 18-22
AB A 3-phase, mech. agitated, batch, **lab. reactor** is presented, featuring a cup-and-cap holder for powd. catalyst. The system has a fixed cover (cap) and a loose vase (cup) that are mounted on the reactor shaft. The latter has a helicoidal groove for cup descent with a follower pin. Two horizontal grooves are provided for positioning the cup either at thetop of the helix in the gas phase or at the bottom on top of the impeller submerged in the liq. phase. The app. enables precise detn. of minute catalyst loadings, accurate control, stability of operating conditions, in situ preactivation of the catalyst at any **pressure** and temp. without external devices for **injections** or introduction of solids, and zero induction time detn. of reaction rates. Soybean Me esters (40 cm3) were hydrogenated with a loading of 2 mg of catalyst/g of liq. at 398-443 K and 272-542 kPa. Induction-time suppression and accurate initial-rate detns. were achieved. The reaction kinetics were suitable for mass-transfer-

coeff. estn.

L14 ANSWER 143 OF 202 CA COPYRIGHT 2002 ACS
AN 101:235548 CA
TI The remotely-controlled preparation of a carbon-11-labeled radiopharmaceutical - [1-11C]acetate
AU Pike, Victor W.; Horlock, Peter L.; Brown, Cyril; Clark, John C.
CS Med. Res. Counc. Cyclotron Unit, Hammersmith Hosp., London, W12 0HS, UK
SO Int. J. Appl. Radiat. Isot. (1984), 35(7), 623-7
AB A remotely-controlled app. is described for the prepn. of the radiopharmaceutical, Me11CO2- [82880-30-6], from cyclotron-produced 11CO2 [10375-59-4] according to established radiochem. This app. features a multi-ported **reaction vessel** (fitted with an elec. stirrer), 12 solenoid **valves** (to direct fluid flows and hydraulically-powered syringes), 1 hydraulic oil pump and 1 heated water-bath (all operated at 24 V d.c.). These components are controlled either with a rotary-switch or with an Apple II microcomputer acting through a digital output card. An important advantage of the use of this app. over the use of manually-controlled app. is that it results in a much reduced radiation dose to the operator. In addn. Me11CO2- can be prepd. much more efficiently with the remotely-controlled app. than with corresponding manually-controlled app. Thus the overall efficiencies (radiochem. yields uncorrected for decay) for the conversion of 11CO2 into Me11CO2- for **injection** are 24, 39 and 47% for manual, remote rotary-switch and remote microcomputer control, resp. The high efficiency and consistent performance of the remotely-controlled app. permit useful flexibility in the design of clin. expts. with Me11CO2- and positron emission tomog.

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